No. 200400202

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR CONDITIONING IT PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR NT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'8302'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this first day of July, in the year two thousand and four.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions* — Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Pioneer Hi-Bred International, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
XW00D

3. VARIETY NAME
8302

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Crop Genetics Research & Development
Wheat Research
3850 N. 100 E.
Windfall, IN 46076-9389

5. TELEPHONE *(Include area code)*
(765) 945-7906

6. FAX *(Include area code)*
(765) 945-8313

FOR OFFICIAL USE ONLY

PVPO NUMBER
2004 00 202

FILING DATE
MAY 4, 2004

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
Iowa

9. DATE OF INCORPORATION
May 7, 1926

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Dr. Gregory C. Marshall
Pioneer Hi-Bred International, Inc.
Wheat Research
3850 N. 100 E.
Windfall, IN 46076-9389

FEES RECEIVED
FILING AND EXAMINATION FEES:
$ 3652.00
DATE 5/04/2004
CERTIFICATION FEE:
$ 432.00
DATE 6/02/2004

11. TELEPHONE *(Include area code)*
(765) 945-7906 ext. 11

12. FAX *(Include area code)*
(765) 945-8313

13. E-MAIL
Greg.Marshall@Pioneer.com

14. CROP KIND *(Common Name)*
Wheat

16. FAMILY NAME *(Botanical)*
Triticum aestivum

15. GENUS AND SPECIES NAME OF CROP
gramineae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (***OPTIONAL***)
☐ YES ☒ NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED
(Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 21 and 22 below)* ☒ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
☐ YES ☐ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Gregory C. Marshall			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Gregory C. Marshall			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Wheat Research Director	4/30/04		

(See reverse for Instructions and information collection burden statement)

INSTRUCTIONS

2004 00 202

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $3,652 ($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

ITEM

19a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

23. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

24. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

19A. Exhibit A. Origin and Breeding History of Wheat Cultivar 8302.

Cultivar '8302', a soft red winter wheat (*Triticum aestivum* L.) was developed by Pioneer Hi-Bred International, Inc.. Using a modified pedigree selection breeding method, 8302 was derived from the three parent cross:

WEG0051A1/WBB076D1//2552

WEG0051A1 was an experimental line derived from the cross: MYNA 'S'/5*2555 sib.//KS81H1640HF/5*2555 sib. The cultivar MYNA 'S' (PI 519783) was a spring wheat cultivar from CIMMYT. The cultivar KS81H1640HF (CItr 17960) was a germplasm release from Kansas State University. WBB076D1 was an experimental line derived from the cross: 2548 sib./Caldwell//W9057B/2553. W9057B was derived from the cross: S76 sib./5517A5-5-1P-3. The cultivar, 5517A5-5-1P-3 was an experimental line from Purdue University, with the parentage: 'Redcoat'/8/'Norin33'/6/'Fairfield'/4/PI94587// 'Fultz'/'Hungarian'/3/Fultz/Hungarian/5/'Trumbull'*3//'Hope'/'Hussar'/4/Trumbull/3/CI 12061//Fultz/Hungarian/7/'Knox'. The detailed parentage of 8302 is:

MYNA 'S'/5*2555 sib.//KS81H1640HF/5*2555 sib./12/2548 sib./Caldwell/11/ S76 sib. /9/Redcoat/8/Norin33/6/Fairfield'/4/PI94587//Fultz/Hungarian/3/ Fultz/Hungarian/5/Trumbull*3//Hope/Hussar/4/Trumbull/3/CI12061// Fultz/Hungarian/7/Knox/10/2553/13/2552

The single cross WEG0051A1/WBB076D1 was made in the 1990 spring greenhouse cycle and was designated WBL1789. During the 1990 fall greenhouse cycle the F_1, WBL1789, was crossed with 2552 and the final cross designated WBN0826. The subsequent breeding history of 8302 is described below.

Year	Generation	
1990	Final cross	
1991	F_1	F_1 grown in transplant nursery at Windfall IN.
1991-92	F_2	Bulk populations grown at Windfall and Ft. Branch, IN. Individual spike selections made at Ft. Branch, IN.
1992-93	F_3	Headrows from F_2 selections grown at Ft. Branch, IN. Selected rows cut and threshed individually.
1993-94	F_4	A three row X 3-meter observation plot was planted at Windfall and Ft. Branch, IN. A meter section of the center row was harvested from the selected plot and threshed in bulk.
1994-95	F_5	Seed from selected F_4 plots was screened for resistance to Hessian fly Biotype L at Purdue University and putative resistant plants were transplanted to the field at Windfall, IN. Spikes were harvested from the selected plot and threshed individually.

1995-96	F_6	Seed from putative Hessian fly Biotype L resistant plants was planted at Windfall and Ft. Branch, IN. Selected rows were cut and threshed individually. This selection was made at Windfall, IN.
1996-97	F_7	Preliminary yield testing of an F_5 selection from an F_6 headrow. This selection designated WBN0826C1.
1997-98	F_8	Advanced yield testing of WBN0826C1. 200 individual spikes were harvested from a small bulk increase.
1998-99	F_9	Elite yield testing of WBN0826C1. 200 purification headrows planted, off-type rows destroyed prior to maturity. Approximately 100 of the remaining, inside rows were individually cut and threshed. Two spikes were taken from each harvested row.
1999-2000	F_{10}	Elite yield testing continued of WBN0826C1. Seed from purification headrows planted in individual progeny plots which surrounded 200 headrows. Off-type plots and headrows were destroyed prior to harvest. Equal numbers of spikes were harvested from the remaining progeny plots for a total of 1000 individual spikes. 110 headrows were harvested. The progeny plots were harvested in bulk, which constitutes Breeder Seed. Bulk seed, headrow bulks, and individual spikes were turned over to Pioneer's Supply Management, Parent Wheat Seed group.
2000-01	F_{11}	Elite yield testing continued, line designated YW00D. Seed increase continued by Pioneer Parent Wheat Seed Group.
2001-02	F_{12}	Elite yield testing continued, line designated XW00D. Seed increase continued by Pioneer Parent Wheat Seed Group.

Decision to release WBN0826C1 was made in August, 2003 at which time the commercial code, 8302 was assigned.

The cultivar 8302 was bred and selected for any and all of the following characteristics in the field environment: disease resistance, plant type, plant height, head type, straw strength, maturity, grain yield, test weight, and milling and baking characteristics.

8302 has been shown to be uniform and stable since the 7th generation, or for the last 5 generations. 8302 has shown no variants other than what would normally be expected due to environment.

19B. Exhibit B. Statement of Distinctness

8302 is most similar to Pioneer ® variety 2552 but with the following distinguishing characteristics:

1. The glume shoulder shape of 8302 is wanting, while that of 2552 is oblique.
2. The glume beak shape of 8302 is acute, while that of 2552 is acuminate.
3. 8302 has demonstrated an intermediate level of resistance to leaf rust (*Puccinia recondita* f. sp. *tritici*), while 2552 is moderately susceptible (Significant difference at 0.000 probability level, Table 1). See table below for detailed comparison.

Leaf rust resistance ratings of 8302 and 2552.

	2002 Elite Test	2002 Commercial Test	2002 Mid-south Test	2000 Elite Test	2000 Mid-south Test
8302	5.5	5.0	5.3	7.7	7.0
2552	3.5	3.5	3.5	5.3	5.0
# Locations	1	1	3	2	1
# Replications	2	2	6	3	2
LSD (0.05)	0.9178	0.859	1.36	1.45	1.36

Scale of 1 – 9 where 9 = excellent or resistant, 1 = poor or susceptible.

Data collected in 2002 at locations in Indiana, Kentucky and Arkansas. Data collected in 2000 at locations in Indiana and Missouri.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* spp.)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
Pioneer Hi-Bred International, Inc.	PVPO NUMBER 2004 00 202
ADDRESS *(Street and No. or RD No., City, State, and Zip Code)*	VARIETY NAME 8302
Crop Genetics Research & Development Wheat Research 3850 N. 100 E. Windfall, IN 46076-9389	TEMPORARY OR EXPERIMENTAL DESIGNATION XW00D

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. [0][9] or [0][9]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: Munsell Color Charts for Plant Tissues

Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

[1] **1=Common** **2=Durum** **3=Club** **4=Other (SPECIFY) :** _____

2. VERNALIZATION:

[2] **1=Spring** **2=Winter** **3=Other (SPECIFY) :** _____

3. COLEOPTILE ANTHOCYANIN:

[2] **1=Absent** **2=Present**

4. JUVENILE PLANT GROWTH:

[2] **1=Prostrate** **2=Semi-erect** **3=Erect**

5. PLANT COLOR (boot stage):

[2] **1 = Yellow-Green** **2 = Green** **3 = Blue-Green**

6. FLAG LEAF (boot stage):

[1] **1 = Erect** **2 = Recurved** [2] **1 = Not Twisted** **2 = Twisted**

7. EAR EMERGENCE:

* [ ][ ] **Number of Days Earlier Than** _____

* [ ][0] **Number of Days Later Than** 2552

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8. ANTHER COLOR:

[1] 1 = Yellow 2 = Purple

9. PLANT HEIGHT (from soil to top of head, excluding awns):

[ ][1.5] cm Taller Than 2552 *

[ ][ ] cm Shorter Than _____ *

* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

10. STEM:

A. ANTHOCYANIN

[1] 1= Absent 2=Present

B. WAXY BLOOM

[1] 1=Absent 2=Present

C. HAIRINESS (last internode of rachis)

[2] 1=Absent 2=Present

D. INTERNODE (SPECIFY NUMBER)

[1] 1= Hollow 2=Semi-solid 3=Solid

E. PEDUNCLE

[2] 1=Absent 2=Present

[29] cm Length

11. HEAD (at Maturity):

A. DENSITY

[2] 1=Lax 2=Middense 3= Dense

B. SHAPE

[1] 1 = Tapering 2= Strap 3 = Clavate 4 = Other (SPECIFY): _____

C. CURVATURE

[3] 1 = Erect 2 = Inclined 3 = Recurved

D. AWNEDNESS

[4] 1 = Awnless 2 = Apically Awnletted 3 = Awnletted 4 = Awned

12. GLUMES (at Maturity):

A. COLOR

[2] 1 = White 2 = Tan 3 = Other (SPECIFY) : _____

B. SHOULDER

[1] 1 = Wanting 2 = Oblique 3 = Rounded 4 = Square 5 = Elevated 6 = Apiculate

C. BEAK

[2] 1 = Obtuse 2 = Acute 3 =Acuminate

D. LENGTH

[2] 1 = Short (ca. 7mm) 2 = Medium (ca. 8mm) 3 = Long (ca. 9mm)

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12. GLUMES (at Maturity) *Continued*:

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E. WIDTH

[2] 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm) 3 = Wide (ca. 4mm)

13. SEED:

A. SHAPE

[1] 1 = Ovate 2 = Oval 3 = Elliptical

B. CHEEK

[1] 1=Rounded 2=Angular

C. BRUSH

[1] 1=Short 2=Medium 3=Long

[1] 1 = Not Collared 2 = Collared

D. CREASE

[1] 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

[2] 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. Color

[3] 1=White 2= Amber 3= Red
4= OTHER (Specify)

G. PHENOL REACTION *(see instructions)*:

[4] 1 = Ivory 2 = Fawn
3 = Light Brown 4 = Dark Brown
5 = Black

F. TEXTURE

[2] 1=Hard 2=Soft

14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

[0] Stem Rust *(Puccinia graminis* f. sp. *tritici)*

[2] Stripe Rust *(Puccinia striiformis)*
Field races

[3] Tan Spot *(Pyrenophora tritici-repentis)*
Field races

[0] Halo Spot *(Selenophoma donacis)*

[3] *Septoria nodorum* (Glume Blotch)
Field races

[0] *Septoria avenae* (Speckled Leaf Disease)

[3] *Septoria tritici* (Speckled Leaf Blotch)

[3] Scab (*Fusarium* spp.)
Field races

[3] Leaf Rust *(Puccinia recondita* f. sp. *tritici)*
Field races

[0] Loose Smut *(Ustilago tritici)*

[0] Flag Smut *(Urocystis agropyri)*

[0] Common Bunt *(Tilletia tritici* or *T. laevis)*

[0] Dwarf Bunt *(Tilletia controversa)*

[0] Karnal Bunt *(Tilletia indica)*

[3] Powdery Mildew *(Erysiphe graminis* f. sp. *tritici)*
Field races

[0] "Snow Molds"

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14. **Disease *(Continued)*** **(0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)**

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PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

[0]	**"Black Point" (Kernel Smudge)**	[0]	**Common Root Rot *(Fusarium, Cochliobolus* and *Bipolaris* spp.*)***
[0]	**Barley Yellow Dwarf Virus (BYDV)**	[0]	**Rhizoctonia Root Rot *(Rhizoctonia solani)***
[3]	**Soilborne Mosaic Virus (SBMV)** Field races	[0]	**Black Chaff *(Xanthomonas campestris* pv. *translucens)***
[3]	**Wheat Yellow (Spindle Streak) Mosaic Virus** Field races	[0]	**Bacterial Leaf Blight *(Pseudomonas syringae* pv. *syringae)***
[0]	**Wheat Streak Mosaic Virus (WSMV)**	[ ]	**Other (SPECIFY)**
[ ]	**Other (SPECIFY)**	[ ]	**Other (SPECIFY)**
[ ]	**Other (SPECIFY)**	[ ]	**Other (SPECIFY)**
[ ]	**Other (SPECIFY)**	[ ]	**Other (SPECIFY)**

15. **INSECT:** **(0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)**

PLEASE SPECIFY BIOTYPE (where needed)

[2]	**Hessian Fly *(Mayetiola destructor)*** Biotype L	[ ]	**Other (SPECIFY)**
[0]	**Stem Sawfly *(Cephus* spp.)**	[ ]	**Other (SPECIFY)**
[0]	**Cereal Leaf Beetle *(Oulema melanopa)***	[ ]	**Other (SPECIFY)**
[0]	**Russian Aphid *(Diuraphis noxia***	[ ]	**Other (SPECIFY)**
[0]	**Greenbug *(Schizaphis graminum)***	[ ]	**Other (SPECIFY)**
[0]	**Aphids**	[ ]	**Other (SPECIFY)**

16. **ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS**

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19D. Exhibit D. Additional Description of the Variety

1. Yield and Agronomic information.

   Preliminary yield testing of 8302 began in the 1996-97 growing season and wide scale testing has been conducted from the 1997-98 growing season to the present. It has shown adaptation to the northern soft wheat regions based on tests conducted in Arkansas, Kentucky, Missouri, Illinois, Indiana, Ohio, Michigan, Maryland and Ontario, Canada (Table 1).

2. Information on Milling and Baking Qualities.

   8302 has demonstrated average soft winter wheat milling and baking qualities (Table 2).

Table 1. Paired comparisons of 8302 during the period 1999-2003.

Variety	Grain Yield	Test Weight	Plant Height	Heading Date	Straw Lodging	Leaf Rust	Leaf Blight	Powdery Mildew	Scab	Stripe Rust	SSMV	SBMV
	bu/ac	lb/bu	cm	After Jan 1	1-9@	1-9@	1-9@	1-9@	1-9@	1-9@	1-9@	1-9@
8302	**91.1**	**58.4**	**96.5**	**121.6**	**7.7**	**6.0**	**6.0**	**5.5**	**6.0**	**7.5**	**5.6**	**6.0**
2552	**88.1**	**58.7**	**95.0**	**121.6**	**7.9**	**4.1**	**5.8**	**6.1**	**5.4**	**8.5**	**7.3**	**6.6**
Years	4	4	4	4	4	2	3	2	4	1	2	3
Reps.	226	216	56	67	22	15	34	8	21	2	21	10
Prob.	0.000	0.045	0.003	1.00	0.376	0.000	0.215	0.239	0.026		0.000	0.324
8302	**95.2**	**59.1**	**96.8**	**129.3**	**7.3**	**6.3**	**5.9**	**5.9**	**5.7**		**5.4**	**5.9**
25R37	**95.3**	**59.1**	**93.0**	**129.1**	**7.8**	**7.5**	**6.4**	**6.9**	**5.8**		**6.8**	**7.1**
Years	5	5	5	5	4	3	3	3	4		2	4
Reps.	293	285	81	104	22	24	28	11	27		16	14
Prob.	0.988	0.957	0.0	0.224	0.168	0.033	0.037	0.202	0.888		0.000	0.010
8302	**91.2**	**58.7**	**96.0**	**124.2**	**7.6**	**6.4**	**6.0**	**5.4**	**5.5**		**5.6**	**5.9**
25R78	**93.1**	**59.2**	**92.5**	**122.0**	**8.2**	**7.2**	**4.8**	**5.9**	**5.0**		**6.3**	**6.7**
Years	5	5	5	5	4	3	3	4	4		2	4
Reps.	330	315	94	120	45	29	38	21	33		21	14
Prob.	0.001	0.000	0.000	0.000	0.015	0.018	0.001	0.407	0.072		0.011	0.061

@ Scale of 1 – 9 where 9 = excellent or resistant, 1 = poor or susceptible

Data in above table collected at locations in Arkansas, Kentucky, Missouri, Illinois, Indiana, Ohio, Michigan, Maryland and Ontario, Canada.

Table 2. Average Soft wheat quality data, 1999-2002.

Variety	Flour Yield	Break Flour Yield	Flour Protein	AWRC	Cookie Diameter
	%	%	%	%	cm
8302	**71.0**	**45.9**	**9.5**	**56.3**	**18.9**
Years(reps)	3(8)	3(8)	3(8)	3(8)	2(4)
2552	**72.5**	**43.5**	**10.3**	**55.2**	**18.2**
Years(reps)	4(9)	4(9)	4(9)	4(9)	2(2)
25R37	**71.0**	**42.0**	**9.2**	**58.3**	**18.5**
Years(reps)	4(27)	4(27)	4(27)	4(27)	3(12)
25R49	**72.5**	**43.9**	**8.2**	**56.3**	**18.7**
Years(reps)	4(29)	4(29)	4(29)	4(29)	3(14)

AWRC = Alkaline Water Retention Capacity.

Quality data collected at Pioneer in Johnston, IA and the USDA-ARS Soft Wheat Quality Lab in Wooster, OH.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Pioneer Hi-Bred International, Inc.	XW00D	8302

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(Include area code)*	6. FAX *(Include area code)*
Crop Genetics Research & Development Wheat Research 3850 N. 100 E. Windfall, IN 46076-9389	(765) 945-7906	(765) 945-8313

7. PVPO NUMBER 2004 00 202

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** [X] **YES** [ ] **NO**

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** [X] **YES** [ ] **NO**

10. Is the applicant the original owner? [X] **YES** [ ] **NO** **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
[ ] **YES** [ ] **NO** **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
[ ] **YES** [ ] **NO** **If no, give name of country**

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.